

## **REMOVABLE WALLING SYSTEM**

### **FIELD OF THE INVENTION**

[0001] This invention relates to removable walling systems and, more particularly, to removable walling systems for use with cargo trailers or vehicles.

### **BACKGROUND**

[0002] Various sporting or spectator events and competitions require that a participant, when attending the event, use or show specialized equipment at the event. Examples of these events include equestrian, BMX, and motorcycle shows, in which the specialized equipment includes horses, dirt bikes, and motorcycles (respectively). This, in turn, requires that the attendees of the event utilize some form of transportation vehicle or trailer to transport the required equipment (e.g., horses, dirt bikes, or motorcycles) to the event.

[0003] Unfortunately, the expense of attending these events is often exacerbated by the various lodging expenses associated with the event. Additionally, as these events are often heavily attended, it may not be possible to secure affordable lodging within a convenient distance with respect to the location of the event.

### **SUMMARY OF THE INVENTION**

[0004] According to a first implementation, a temporary walling system includes a wall structure having at least one sealable opening for allowing passage through the wall structure. A fastening system releasably attaches the wall structure to a cargo transportation apparatus.

[0005] One or more of the following features may also be included. The cargo transportation apparatus may be a trailer (e.g., a horse trailer or a motorcycle trailer) or a truck (e.g., a delivery truck). The fastening system may include one or more snap-type fasteners, one or more zipper-type fasteners, or one or more channel-type fasteners. The at

least one sealable opening may be a door or a window.

[0006] The wall structure may be constructed of a flexible material (e.g., a flexible plastic material or a flexible mesh material) or a rigid material (e.g., a rigid plastic material, a rigid aluminum material, or a rigid composite material).

[0007] A lower portion of the wall structure may include a weighting apparatus for effectively sealing the lower portion of the wall structure to the floor of the cargo transportation apparatus.

[0008] According to a further implementation, a portable living structure may be formed by combining the temporary walling system with a cargo transportation apparatus.

[0009] The details of one or more implementations may be set forth in the accompanying drawings and the description below. Other features and advantages will become apparent from the description, the drawings, and the claims.

## **BRIEF DESCRIPTION OF THE DRAWINGS**

FIG. 1 is a diagrammatic view of two vehicles onto which a temporary walling system may be installed;

FIG. 2 is a diagrammatic view of a temporary walling system;

FIG. 3A is a cross-sectional view of a channel-type fastener of the temporary walling system of FIG. 2; and

FIG. 3B is a cross-sectional view of a weighted lower portion of the temporary walling system of FIG. 2.

## **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS**

[0010] Referring to FIGS. 1 and 2, there is shown a trailer 10 (being towed by a pickup truck 12) and a delivery truck 14 onto which a temporary walling system 16 may be installed. As discussed above, when attending sporting / spectator events (e.g., equestrian shows, BMX events, and motorcycle shows, for example), the attendees often use trailer 10

and / or delivery truck 14 to transport specialized equipment (e.g., horse 18 and motorcycle 20) to the sporting / spectator event.

[0011] When installed on trailer 10 or truck 14 (hereinafter trailer / truck), temporary walling system 16 converts the trailer / truck into a temporary living structure in which the attendees can live during the sporting / spectator event.

[0012] Temporary walling system 16 includes a wall structure 22 having at least one sealable opening for allowing passage through the wall structure 22. Examples of the sealable opening include door 24 and window 26. Door 24 and window 26 may be constructed of a breathable material (e.g., a nylon mesh material) that allows for ventilation. Alternatively, door 24 and window 26 may be constructed of a non-breathable material that protects the attendees of the sporting / spectator event from the elements (e.g., rain, snow, and sleet, for example). Additionally, door 24 and windows 26 may be multi-layer structures that include a openable, non-breathable inner layer and a breathable outer layer. Therefore, during inclement weather, the attendee may temporarily close the non-breathable, inner layer (using a temporary fastener system, such as a zipper or hook-and-loop fasteners). And when ventilation is desired, the non-breathable, inner layer may be opened, thus allowing for ventilation through the breathable outer layer.

[0013] Door 24 may be sealed to wall structure 22 using a temporary fastening system 28, such as snap-type fasteners, hook-and-loop fasteners, or a zipper, for example. Therefore, if door 24 is non-rigid, door 24 may be unsealed from wall structure 22, rolled up (or to the side) and temporarily secured. Alternatively, door 24 may be hinged to allow for traditional axial rotation about e.g., axis 30. If door 24 is hinged, door 24 may include (as required) stiffening members (not shown) that maintain door 24 in a generally planar form, and a latching mechanism (not shown) that allows for the latching and unlatching of door 24.

[0014] Wall structure 22 may be constructed of various types of flexible or rigid material, or any combination thereof.

[0015] Examples of the flexible materials include non-breathable sheet-type material (for use in inclement weather conditions) or breathable, mesh-type material that allows for ventilation. Based on the desired level of privacy and the availability of artificial light within the trailer / truck, the sheet material may be clear (e.g., clear vinyl), translucent (e.g., translucent vinyl), or opaque (e.g., opaque vinyl, burlap, polyester, or cloth, for example). Additionally, the flexible material may include an insulating layer (e.g., 3M Thinsulate<sup>™</sup>) to reduce the transmission of heat through wall structure 22.

[0016] Example of rigid material from which wall structure 22 may be constructed include rigid sheet plastic, rigid sheet aluminum, rigid sheet carbon fiber material, or a rigid sheet composite material (e.g., an inner and outer aluminum skin surrounding an insulating core). If a rigid material is used, wall structure 22 may be divided into several smaller manageable panels (thus allowing for easy stowage), which may be interconnected via hinges (not shown) or removable fasteners (e.g., screws, snap-type fasteners, or nuts and bolts, for example (not shown)).

[0017] Temporary walling system 16 includes a fastening system 32 for releasably attaching the wall structure 22 to a surface 34 of the trailer / truck. By releasably attaching the wall structure to the trailer / truck, the temporarily walling systems can be easily installed and removed whenever the trailer / truck is to be used as a temporary living structure.

[0018] The type of fastening system 32 incorporated into temporary walling system 16 varies depending on the material from which the wall structure 22 is constructed. As discussed above, the wall structure 22 may be constructed from either flexible or rigid material.

[0019] Referring also to FIG. 3A, if wall structure 22 is constructed of a flexible material, fastening system 32 may include snap-type fasteners (not shown), hook-and-loop fasteners (not shown), zipper fasteners (not shown), or channel-type fasteners 36 (as shown along section line 38, FIG. 2). Channel-type fastener 36 typically include a channel

member 40 into which slidable members (e.g., spheres) 42 are slid. These slidable members 42, which are attached to wall structure 22, slidably secure (via channel member 40) the wall structure 22 to the surface 34 of the truck / trailer. Typically, channel member 40 is rigidly attached to the inner surface of the roof and sides of the truck / trailer. If wall structure 22 is constructed of a rigid material, fastening system 32 may include screws (not shown) or nuts and bolts (not shown).

[0020] Referring also to FIG. 3B, the lower portion of wall structure 22 may include a weighting apparatus 44 (as shown along section line 46, FIG. 2) for effectively sealing the wall structure 22 to the floor surface 48 of the trailer / truck. By using weighting apparatus 44 to maintain contact between wall structure 22 and floor surface 48, no channels or fasteners need to be attached to the floor surface 48 of the trailer / truck.

[0021] While the windows and doors of the temporarily walling system are described above as including a openable inner layer and a non-openable outer layer, other configurations are possible. For example, the breathable outer layer may also be openable. Further, the doors and windows of the temporary walling system may only include either a breathable layer or a non-breathable layer.

[0022] A number of implementations have been described. Nevertheless, it will be understood that various modifications may be made. Accordingly, other implementations may be within the scope of the following claims.